

TOWER SEMICONDUCTOR LTD

Form 6-K

April 16, 2012

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of April 2012

No. 01

TOWER SEMICONDUCTOR LTD.

(Translation of registrant's name into English)

Ramat Gavriel Industrial Park

P.O. Box 619, Migdal Haemek, Israel 23105

(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.

Form 20-F Form 40-F

Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes No

On April 16, 2012, the registrant announces TowerJazz and NeoFidelity Announce Strategic Relationship to Supply Digital Audio Amplifiers to Samsung and LG.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

TOWER SEMICONDUCTOR LTD.

Date: April 16, 2012

By: /s/ Nati Somekh
Name: Nati Somekh
Title: Corporate Secretary

TowerJazz and NeoFidelity Announce Strategic Relationship to Supply Digital Audio Amplifiers to Samsung and LG

MIGDAL HAEMEK, Israel and SEOUL, Korea, April 16, 2012 – TowerJazz, the global specialty foundry leader, and NeoFidelity Inc., announce mass production of a full digital audio amplifier for LCD slim TVs supplying Korean companies Samsung and LG which dominate the worldwide market. NeoFidelity successfully began production in November 2011 and demand is steadily increasing. By shifting its production from a 0.16-micron process to TowerJazz's 0.13-micron technology, NeoFidelity was able to realize an advantage in cost competitiveness. In addition, NeoFidelity is able to leverage TowerJazz's powerful set of design kits, accurate models and comprehensive analog IP portfolio.

The new digital audio amplifier reduces heat and improves efficiency and sound quality, which was a challenge for previous analog audio amps (AB-class, D-class). Another advantage of the digital audio amp is better performance as it can process digital signal without converting into analog signal. In the case of analog amp chips, it requires devices to change the digital signal to an analog signal. In addition, due its very small chip size, NeoFidelity's full digital audio amp can be used in slimmer and smaller sized applications.

"We are excited about producing digital audio amps for Samsung and LG on TowerJazz's 0.13-micron technology CMOS platform. We have been very pleased with the dedicated support of TowerJazz, especially from their local Korean office," said Lee Ducksoo, NeoFidelity's Chief Executive Officer. "NeoFidelity shifted to TowerJazz to enhance the competitiveness of our full digital audio amplifier. As we expand our market to overseas and diversify our products' roadmap, we look forward to continue working with TowerJazz."

"NeoFidelity has been focused on high end audio amps for a good decade and is the true expert with a unique solution. We are very excited to be chosen as their strategic partner not only for the audio amp market, but also for many other devices that will increase our technology offerings and capabilities as well as expand our market share in various applications," said Michael Song, Korea Country Manager, TowerJazz.

NeoFidelity has achieved design wins for its TV amplifier product in the China market as well as with Samsung and LG and is expecting to begin supply to several giant TV customers and audio product manufacturers in China.

About NeoFidelity

NeoFidelity Inc. (KOSDAQ:101400), semiconductor acoustic solution leader, was founded in April, 2000 by Ph.D.s from Seoul National University, who are audio & signal processing experts. NeoFidelity successfully created the world's best digital amplifier with distortion compensation filter that helps overcome the limitations of TV speakers. Its revolutionary technology successfully aided in commercialization of digital TVs. By making new advances in technologies in a variety of fields, NeoFidelity expands its products' portfolio and its customers. For more information, please visit www.neofidelity.com/eng/.

About TowerJazz

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM), its fully owned U.S. subsidiary Jazz Semiconductor, Inc. and its fully owned Japanese subsidiary TowerJazz Japan, Ltd., operate collectively under the brand name TowerJazz, the global specialty foundry leader. TowerJazz manufactures integrated circuits with geometries ranging from 1.0 to 0.13-micron, offering a broad range of customizable process technologies including: SiGe, BiCMOS, Mixed-Signal and RFCMOS, CMOS Image Sensor, Power Management (BCD), and Non-Volatile Memory (NVM) as well as CMOS and MEMS capabilities. TowerJazz also offers a world-class design enablement platform that complements its sophisticated technology and enables a quick and accurate design cycle. In addition, TowerJazz provides (TOPS) Technology Optimization Process Services to IDMs as well as fabless companies that need to expand capacity, or progress from an R&D line to a production line. To provide multi-fab sourcing, TowerJazz

maintains two manufacturing facilities in Israel, one in the U.S., and one in Japan with additional capacity available in China through manufacturing partnerships. For more information, please visit www.towerjazz.com.

Safe Harbor Regarding Forward-Looking Statements

This press release includes forward-looking statements, which are subject to risks and uncertainties. Actual results may vary from those projected or implied by such forward-looking statements. A complete discussion of risks and uncertainties that may affect the accuracy of forward-looking statements included in this press release or which may otherwise affect TowerJazz's business is included under the heading "Risk Factors" in Tower's most recent filings on Forms 20-F, F-3, F-4 and 6-K, as were filed with the Securities and Exchange Commission (the "SEC") and the Israel Securities Authority and Jazz's most recent filings on Forms 10-K and 10-Q, as were filed with the SEC, respectively. Tower and Jazz do not intend to update, and expressly disclaim any obligation to update, the information contained in this release.

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